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SUMMER 1976

SPECIAL ISSUE:
THE VIRGINIA COAST RESERVE

THE NATURE CONSERVANCY NEWS

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SPECIAL ISSUE: THE VIRGINIA COAST RESERVE

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COVER PHOTO: Sunlit shore, Virginia Barrier Islands; by Susan Bournique.
INSIDE COVER PHOTO: Dogwood blossoms by Laura de Frise.

LAND CONSERVATION THROUGH PRIVATE ACTION

The Nature Conservancy is a national conservation organization, receiving its support from the public, whose objective is to preserve and protect ecologically and environmentally significant land and the diversity of life it supports.

To achieve this goal, the Conservancy purchases lands using its revolving fund which is then replenished through fund raising; accepts gifts of land; retains and provides stewardship for 60% of all projects; works with local, state, and federal governments to identify and protect important natural areas and acquires and manages land in advance of government agencies' ability to do so.

Some 920,271 acres of forests, swamps, marshes, prairies, mountains, beaches, and islands in 1,617 projects throughout the United States have been saved from destruction by the Conservancy since the acquisition of its first preserve in 1954.

A member-governed non-profit organization, The Nature Conservancy was incorporated in 1951 in the District of Columbia for scientific and educational purposes.

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Connecticut

HUGH A. MARSHALL PRESERVE (Town of Ledyard). The 100-acre property, a gift of Dr. David C. Marshall in honor of his son, contains red maple swamp, as well as mixed oak forest, mesic forest, and oak-hickory forest. The tract links a town conservation area with the Conservancy's Pike Preserve, forming a green corridor over a mile long. The Connecticut Chapter will manage the area.

PHELPS RESEARCH AREA — Addition — (Town of North Colebrook). Approximately 50 acres of upland forest were donated by Frank E. Egler. The trees include northern hardwoods, hemlock, and white pine. The acquisition of this property rounds off the southwestern boundary of the preserve and adds a significant section of the headwaters of the marsh and the watershed of the Doolittle Lake Brook which crosses the preserve. The Connecticut Chapter will manage the area.

WEST FARMS LAND TRUST (Town of Waterford). An area of approximately 60 acres, the property is forested with mixed hardwoods. A large stand of beech and several extensive stands of pipsissewa are among the distinctive features of the property. The land will be transferred to the West Farms Land Trust for management.

Florida

BIG CYPRESS SWAMP — Addition — (Collier County). 126 acres were purchased by the Conservancy for the National Park Service as an addition to the Big Cypress National Fresh Water Reserve. Birds migrating to and from South and Central America are provided with an important feeding, nesting, and wintering area, as well as resting place. The property is a habitat for alligator, bald eagle, deer, osprey, and panther. The land will be transferred to the Department of the Interior for administration by the National Park Service.

Illinois

GRANDMA JANE PATTON'S TIMBER (Champaign County). A gift of Mr. and Mrs. Robert O. Beadles, Mr. and Mrs. Franklin Cade, Mrs. Elizabeth Kemp, and Miss Ruth Cade, the 15-acre preserve is a remnant of the Middle Fork of the Vermillion River gallery forest. In addition to mature oak, hickory, and other native species, the presence of the long-bracted orchid is an indication of the undisturbed nature of the land. Parkland College will manage the property.

KINCAID LAKE (Jackson County). In a cooperative effort with the U.S. Forest Service, the Conservancy acquired 316 acres within the boundaries of the Shawnee National Forest. The property lies approximately ½ mile from Kincaid Lake. One-third of the property is open land and the remainder is brush and woodland. The U.S. Forest Service will manage the area.

Maine

BUTLER PRESERVE (York County). 6 wooded acres are located directly across the Kennebunk River from another Conservancy preserve, the Lewis K. Marshall Memorial Forest. A 4/12 interest in the valuable river frontage was donated by Miss Dorothy J. and Mr. G. Robert Butler.

Maryland

ELK RIVER MARSH—Kramer/Logan Tract—(Cecil County). The first acquisition in a proposed assembly, the 13-acre marshland provides habitat for many species of marsh birds and waterfowl. Fundraising for the purchase was carried out by the Upper Chesapeake Watershed Association, acting as a project committee of the Conservancy. The property is managed by Cecil County Hunters Association as a non-shooting game preserve.

POCOMOKE STATE FOREST — Snow Hill — (Worcester County). The 32-acre property, bordering the Pocomoke River, contains mixed hardwood and pine forest, as well as a small swamp forest. The property is considered a key inholding in the Pocomoke State Forest and is part of the area which is ranked number three in the Conservancy's Chesapeake Bay Inventory. The Conservancy will transfer the tract to the Department of Natural Resources of the State of Maryland for inclusion in Pocomoke State Forest.

Massachusetts

SHARP PRESERVE (Bristol County). Approximately 255 acres, the property consists of fields, woodland, two small brooks, a small pond and swamp area. Trees include pine, oak, maple, spruce, hemlock, birch, beech, dogwood and holly. Lady's slippers are also found on the property. Pheasant, quail, muskrat, raccoon, fox, and deer inhabit the area. The property will be transferred to the Taunton Conservation Commission for management.

WELLFLEET BAY WILDLIFE SANCTUARY (Barnstable County). 18 acres of salt marsh and Cape Cod pitch pine forest were purchased by the Massachusetts Audubon Society with financial assistance from the Conservancy. The property is a vital buffer area to the Society's 700-acre Wellfleet Bay Sanctuary.

Michigan

BIG BASS LAKE (Schoolcraft County). On behalf of the U.S. Forest Service, the Conservancy purchased 87 acres along the shore of Big Bass Lake. The tract, consisting primarily of spruce and fir forest, will be transferred to the Forest Service for inclusion in Hiawatha National Forest.

HOLLOWAY RESERVOIR—Additions—(Genesee and Lapeer Counties). 12 additional acres were purchased by the Conservancy. The forested area contains a blend of northern and southern tree species and a variety of herbaceous plants and shrubs. The Holloway Reservoir project now totals approximately 1,230 acres.

OTTAWA NATIONAL FOREST—Additions—(Houghton County). In cooperation with the U.S. Forest Service, the Conservancy purchased 1,614 acres within the Sturgeon River Special Study Area, bringing the total acreage purchased by the Conservancy to 6,115. The property contains a large cedar swamp, many streams and river gorges, several small lakes, and beaver ponds. Deer and grouse inhabit the area as well as most

other animals common to northern Michigan. The entire tract will be transferred to the U.S. Forest Service for inclusion in Ottawa National Forest.

Minnesota

VOYAGEUR'S NATIONAL PARK (St. Louis County). The Conservancy, in a cooperative effort with the National Park Service, acquired the 46-acre area in Voyageur's National Park. The tract is typical second-growth northern coniferous and hardwood forest containing 1,500 feet of shoreline on Crane Lake. The property lies close to Canada's international waters and within three miles of the Clark's Sand Point Lodge property, previously acquired by the Conservancy for the National Park Service. Management will be the responsibility of the National Park Service.

New York

ATLANTIC DOUBLE DUNES — Addition — (Suffolk County). A section of a three-mile strip of barrier and secondary dunes facing the Atlantic Ocean, the property is an excellent example of the double dune land which the South Fork-Shelter Island Chapter has been assembling in the area. Vegetation includes scrub oak, pitch pine, beach heather, shadbush, bayberry, cranberry, highbush blueberry, health aster and St. John's wort. Half of the 3-acre property is a gift of Katherine Hettesheimer. The South Fork-Shelter Island Chapter is purchasing the remainder.

BARBERVILLE FALLS — Addition — (Rensselaer County). The 5-acre area is adjacent to Barberville Falls which has already been secured by the Conservancy. The property, with 345 feet of frontage on the Poestenkill, is covered with mature hemlock, false solomon seal, partridge berry, wintergreen and a wide variety of ferns. Management is the responsibility of the Eastern New York Chapter.

CANADAWAY CREEK NATURE SANCTUARY—Addition—(Chautauqua County). An area of 2.3 acres, the property borders the creek's northeastern shore and includes part of the mouth of the creek. Mature willow and black walnut grow along the creek bank. The addition of this strip to the Sanctuary constitutes an important step in the protection of the creek, which is a major stopover for migrating birds in the fall and spring. The Western New York Chapter will manage the area.

MUD CREEK (Suffolk County). An area of approximately 3 acres, the preserve is a donation to the Conservancy from Flora Luce and George Penney. The property includes part of the headwaters of Mud Creek and is a prime nutrient marsh for East Creek and Peconic Bay to the south. The health of this salt marsh area is demonstrated by an abundance of the tall form of *Spartina alterniflora*. Oysters and ribbed mussels live along the creek banks with fiddler crabs along the sandy margins. Great blue heron, night heron, kingfisher and clapper rail have been observed on the property. The area, which is managed by the Long Island Chapter, is part of an assembly project planned by the Chapter.

WAITECLIFF (Albany County). A gift of Mrs. Beverly Waite, the 73-acre tract near Albany contains a spectacular limestone escarpment and woodlands of large oak, beech, hemlock and sugar maple. The woods are an excellent habitat for a variety of birds. The Eastern New York Chapter will manage the property.

North Carolina

ENO RIVER—Addition—(Orange County). The area consists of approximately 3 acres. Many wildflowers are found on the property. Wildlife includes deer, rabbit, opossum, raccoon, and squirrels. The Eno River Committee will manage the area until it is transferred to the State of North Carolina for inclusion in the proposed Eno River State Park.

STONE MOUNTAIN PRESERVE—Addition—(Allegheny County). A critical inholding in Stone Mountain Park, the 402-acre area consists primarily of second-growth mixed hardwoods. The land will be transferred to and managed by the National Park Service.

Virginia

JEFFERSON NATIONAL FOREST (Giles County). Three tracts totaling 1,143 acres were purchased by the Conservancy for the U.S. Forest Service. The property is located in the Little Stoney Creek drainage area of the Forest. Native trout live in the mountain streams. The land supports a unique high country forest ecotype found only in a few isolated pockets in Virginia. Such regionally threatened or endangered species as the raven and the golden eagle have been seen in the area. The property will be transferred to and managed by the U.S. Forest Service.

Vermont

GREEN MOUNTAIN NATIONAL FOREST—Addition—(Windham County). A gift of Mr. and Mrs. Stephen Greene, the 45-acre area is adjacent to Green Mountain National Forest. The

property is heavily forested with mixed hardwoods and conifers. Streams cross the hilly terrain, and limestone/marble deposits in the area provide interest to geologists. Some of the fauna found in the area are deer, bear, bobcat, raccoon and beaver. Plans call for the property to be transferred to the U.S. Forest Service for inclusion in Green Mountain National Forest.

TODHAH HILL FOUNDATION — Flint Tract —(Orange County). The woodland parcel, approximately 57 acres, is a gift of Paul L. Kendall. The area provides habitat for a wide variety of wildflowers, birds, and mammals. Birdlife includes goshawk, red-tailed hawk, screech and great horned owls, pileated woodpecker, blackburnian warbler and indigo bunting. Both bear and bobcat have been seen in the area. The tract will be managed by the Todhah Hill Foundation for scientific and educational use.

Wisconsin

BEAR CREEK CAVE (Sauk County). The 45-acre area contains the ninth largest cave in the state with 950 feet of passages. Prior to 1954 Bear Creek Cave was biologically sealed and thus has been available to animal habitation for only 22 years. In spite of this, the cave fauna includes several species either rare or not previously identified in Wisconsin. The cave harbors a significant population of bats. The Wisconsin Chapter now manages the area.

DECORAH MOUND (Trempealeau County). Comprising 30 acres, the area is a gift of Mr. and Mrs. Harlen Hunter. The tract is a classic Mississippi River bluff encompassing a high knob rising 450 feet above the floodplain. Second growth oak-hickory woodland with scattered elm, hackberry, basswood, and white birch covers the bluff slopes. The forest undergrowth contains shooting star, trillium, Dutchman's breeches, and may apple. Management will be the responsibility of the Wisconsin Chapter.

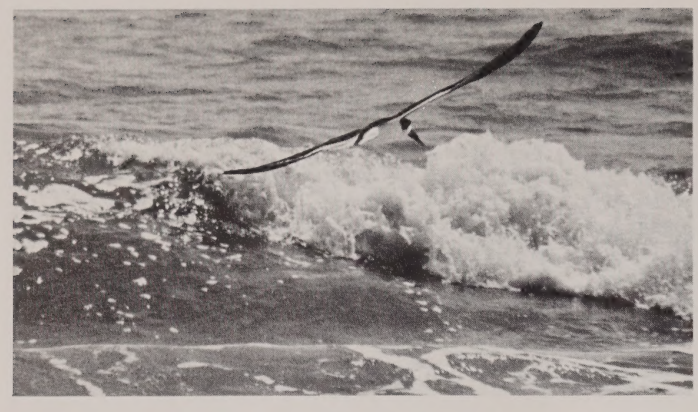
JUNG HEMLOCK AND BEECH FOREST (Shawano County). The 80-acre tract consists of mature northern hardwood forest of hemlock, American beech, and hard maple, with occasional white pine and yellow birch. Some of the old-growth trees have an estimated age of 200 to 250 years. The Conservancy will transfer the property to the Wisconsin Department of Natural Resources.

OMRO PRAIRIE (Winnebago County). The tract of approximately 5 acres is a wet to mesic

prairie remnant. The area contains a good selection of typical prairie flora. Management will be the responsibility of the Wisconsin Chapter in cooperation with the University of Wisconsin-Oshkosh, until the property is transferred to the University for management.

TOFT POINT NATURAL AREA—Addition—(Door County). The 323-acre addition includes white cedar, balsam fir and aspen, as well as black ash, white spruce, and white pine. The tract has approximately a mile and one-half of Lake Michigan shoreline with a shallow lagoon. Addition of this property brings the total area, managed by the University of Wisconsin at Green Bay, to 633 acres.

WAUBESA WETLANDS (Dane County). The 40-acre area is part of the Waubesa Wetlands, an area of some 700 acres of marsh including fern, sedge and shrubcarr communities and many springs. The tract is the second parcel in the Waubesa Wetlands assembly. The Wisconsin Chapter will manage the property until it is transferred to the University of Wisconsin (Madison) for administration as a scientific area.



The Virginia Coast Reserve

In the megalopolis that crowds between Portland, Maine, and Norfolk, Virginia, only one stretch of the seaboard is today much like it was 200 years ago—the barrier islands of Virginia's eastern shore. Amidst acres of soft green marshes, along miles of sand beaches, and in the grasses stabilizing the dunes, the natural rhythm of life where the sea meets the land continues unhindered.

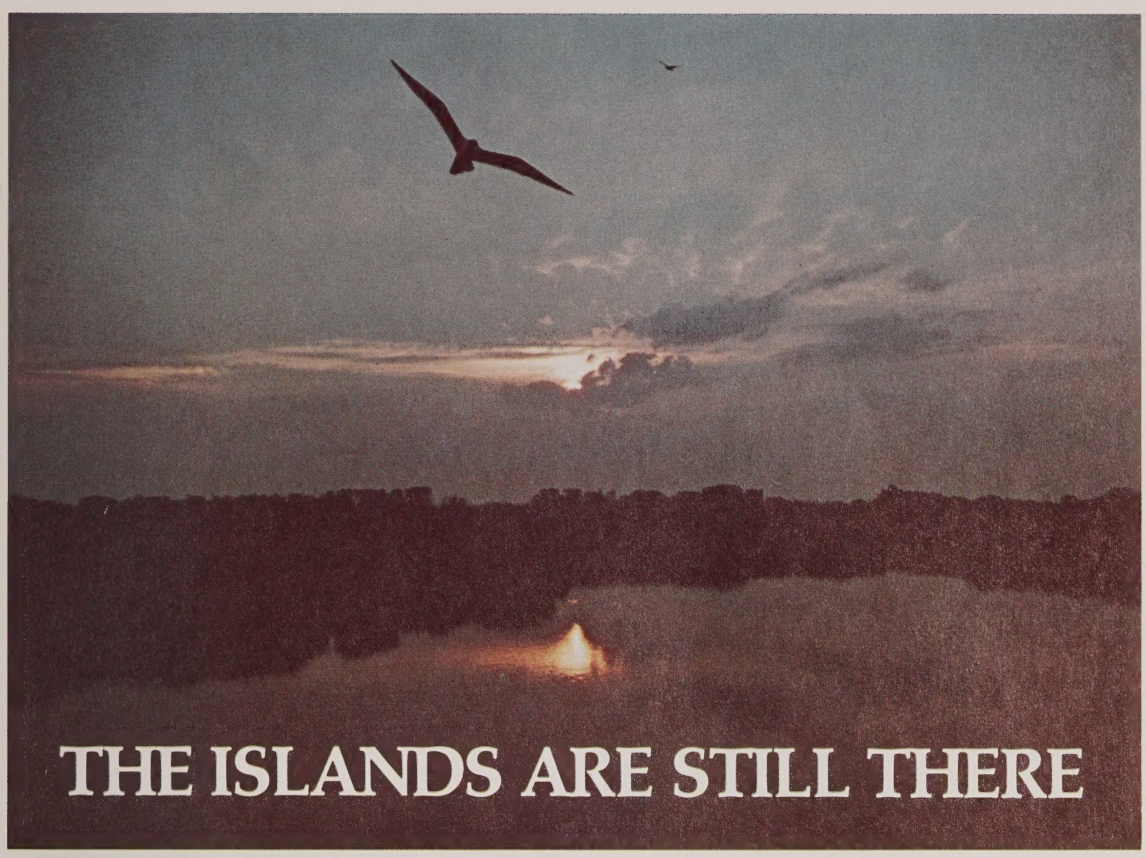
Seabirds nest in packed colonies, tiny crustacea begin existence in the organically-rich marshes, and raptors hunt above the tidal flats and scrub vegetation. As they have done since long before the English adventurers opened Virginia to European settlement in 1607, watermen take their catch from the creeks and guts that meander through the marshes. The food chain that begins in the protected lee of the islands supports ecologically and economically important offshore fisheries just as it did when colonists on the islands scanned the seas for raiding pirates.

With broad financial support from the Mary Flagler Cary Charitable Trust, through the initial fundraising efforts of the Virginia Chapter, and with the generosity of many of the island owners, a majority of the islands have been purchased for protection. Other areas are in government conservation ownership. Although the acquisition program is not fully completed and stewardship activities are just beginning, this edition of the *News* is devoted to exploring the importance and future of the Virginia Barrier Islands.

All Conservancy members share in the credit for the successful program to preserve the islands. Without member support, the six years of concentrated effort demanded by the project would have been impossible.

I hope you will enjoy this Virginia Coast Reserve report, with its special full-color photography, and will pass the publication along to a friend in hopes of enlisting a new member. The Virginia Barrier Island story illustrates the positive results that we can achieve by working together through the Conservancy's action program.

Patrick F. Noonan
President



THE ISLANDS ARE STILL THERE

By Anne M. Byers*

Over the past ten years many events have increased attention to the U.S. coastal areas and created demands for more aggressive action to protect the coastal zone. Many shoreline communities and industries have expanded haphazardly with insufficient environmental controls. Bays, lagoons, estuaries, wetlands, and marshes have been dredged and filled, or are being polluted by industrial and domestic wastes. Coastlines have been covered by silt resulting from poor and thoughtless upland management practices. Offshore oil and natural gas drilling and uncontrolled siting and use of tanker terminals have destroyed finfish and shellfish nurseries, wildlife, and beaches. Private ownership of coastal property has limited or restricted public access to the nation's shores.

In particular, continued development in the coastal zone is destroying our fragile marine ecosystems. The National Estuary Study reported that of the 28 sizable estuaries which existed in southern California at the beginning of the century, 15 have been modified either slightly or moderately, 10 have been altered drastically, and 3 have been destroyed.[1] In other words, none remain in their undeveloped, natural state.

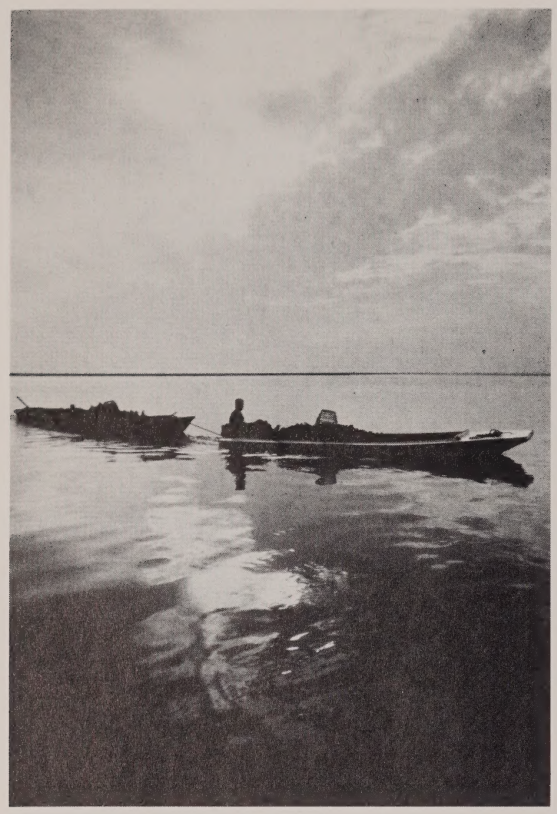
On the east coast, between 10 and 15 percent of the true estuarine environment has been wiped out in New York, New Hampshire, Connecticut, and New Jersey. In the case of Connecticut, 50 percent of the tidal marshes have been obliterated.[2]

One of the last remaining natural seashore areas in the country is a 60-mile string of uninhabited islands and pristine marshes that form a chain down the Atlantic coast, stretching from the Virginia-Maryland border south to the mouth of the Chesapeake Bay. Thirteen of these islands comprise the Conservancy's Virginia Coast Reserve and are part of Virginia's 18 barrier islands.

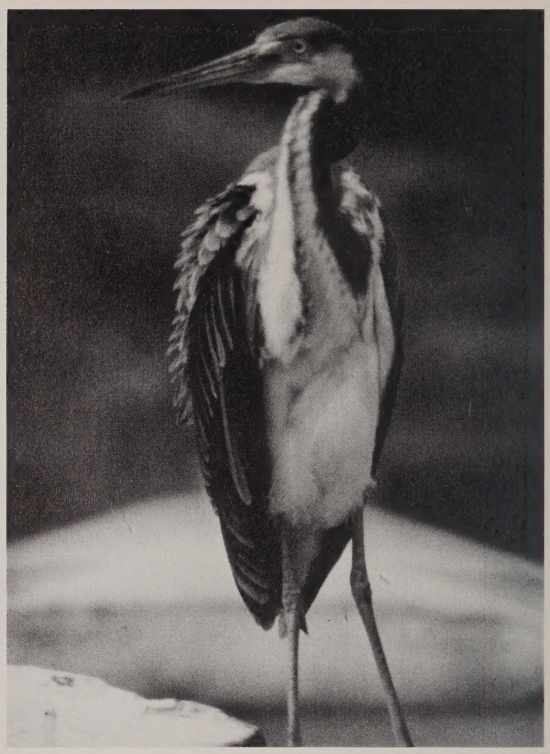
* Portions adapted from Robert E. Jenkins, "Virginia Barrier Islands: Complex Atlantic Ecosystems," *The Nature Conservancy News* (Spring 1971).

[1] U.S. Department of the Interior, Bureau of Sport Fisheries and Wildlife, *Southern California Estuaries and Coastal Wetlands: Endangered Environments* (Portland, Oregon: BSFW, January 1972), p. 5.

[2] William A. Niering, "The Dilemma of the Coastal Wetlands: Conflict of Local, National, and World Priorities," *The Environmental Crisis: Man's Struggle to Live with Himself*, Harold W. Helfrich, Jr., Ed. (Yale University Press, 1970), p. 143.



The islands are important to man, as well as to wildlife.



Louisiana heron

From an ecological standpoint, the islands contained in the Virginia Coast Reserve are much as they were hundreds of years ago when explorers first landed on them. However, because they are constantly sculpted by wind and water, the positions and visages of the islands have shifted and changed dramatically over the years. For example, the village that once stood on Hog Island at the turn of the century now lies under several fathoms of water.

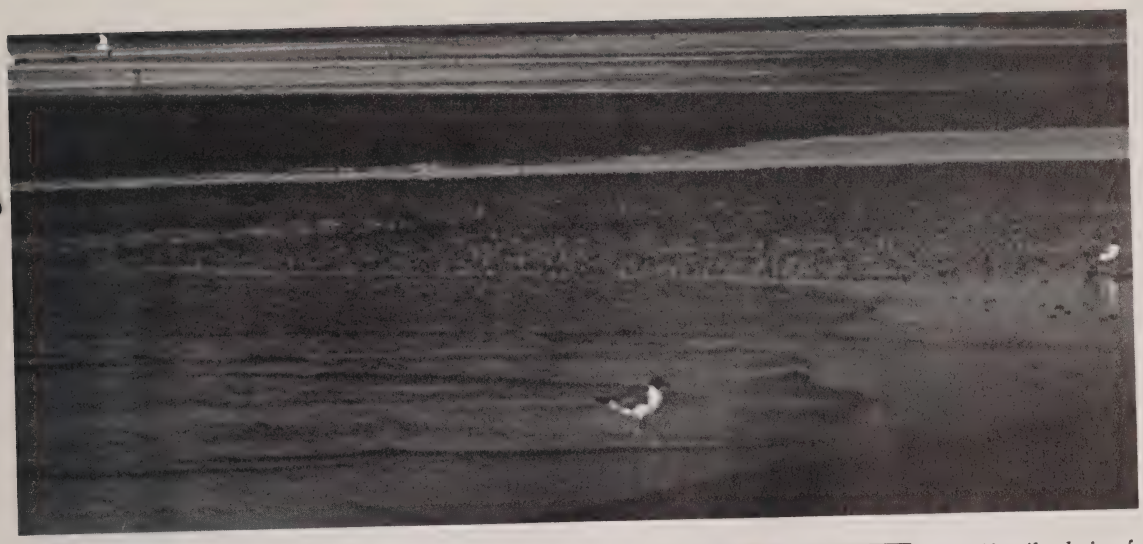
As if in defiance of cartographers and realtors, the islands will not stay put nor maintain constant boundaries. If you have ever poured water over sand or sat on the beach during a high wind, you can understand why. Without something to hold it together, sand is nearly liquid in its properties. The outer banks of barrier islands are comprised of an unconsolidated mix of sand and shell which is held tenuously by rooted vegetation. At the same time, the islands are subject to the full force of wind and water. Day after day, dunes build up in one area and shrink in another; sand is transported by water from beach to beach. The barrier islands are consequently the most dynamic part of the coastal system.

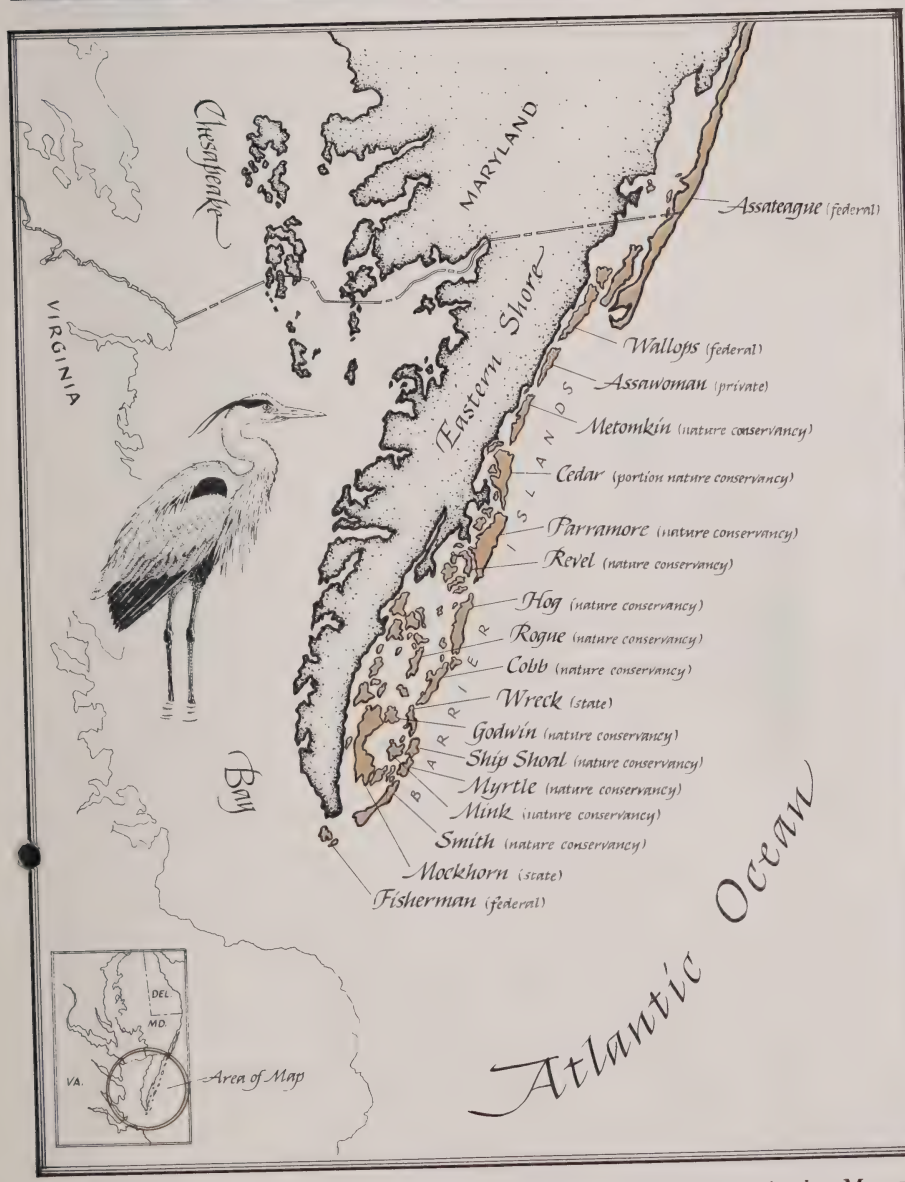
Best characterized by impermanence, the islands are partly spared from total erosion by the formation of sand dunes. Dunes are stabilized by tough grasses and other vegetation which grow upward with the sands as wind-borne particles are captured and accumulate. The islands may thus get taller and wider and eventually forests may even grow on the backdunes. Nevertheless, at the interface between island and sea, inexorable forces continue their work.

On the Atlantic coast, as elsewhere, waves strike the beaches obliquely. Even in the gentlest of weather, the waves dislodge loose sand, grain by grain, and move it along the beach. In an aggregate, this so-called littoral (coastal) drift results in the transport of astronomical quantities of sand. Thus, depending on variations in wind, water, and topography, entire islands may erode or aggrade, or sand may be scoured from one end of an island while it is built up at the other end.

These gradual though constant processes are sometimes unpredictably and abruptly altered during storms and hurricanes. At such time the effects of natural forces are magnified manyfold. In the space of a few hours, dunes may be breached, new inlets created, single islands cut into several, or whole islands may even be destroyed or displaced by hundreds of feet.

Some of these events can be prevented or retarded, but only at great expense and never with secure foreknowledge of success. The sea still nibbles away at the beaches; the retardation of erosion





The 60-mile chain of uninhabited islands and pristine marshes along Virginia's coast is one of the last remaining natural seashore areas in the country.

Ron Baker, from *Defenders* Magazine

The islands are important breeding areas for a variety of birds and crustaceans. Above, ghost crab; below, newly-hatched skimmers.

at one place frequently results in the acceleration of the process nearby.

Considering the barrier islands' precarious state of balance, it would seem that they should be one place where man would tread lightly, if at all. Unfortunately, this is not the case. In spite of the wisdom implied in the ancient biblical passage about the ". . . foolish man who built his house upon sand" rather than upon a "firm foundation," the Atlantic barrier islands have been developed at an alarming rate. Not only does this unwise activity take its toll in human lives, comfort and property, but the rush to claim footholds on these geologic banana peels is destroying some of the most vital ecosystems in the world.

The ecology of the marshlands surrounding the barrier islands is so carefully balanced that it can be totally disrupted by even the addition of any new element—not just insecticides or sewage matter, but by what may be considered a harmless material. For example, a study found that the organic matter used to enrich the waters of duck farms near Long Island produced two species of algae which were not beneficial to the local oysters. Another study established that the oysters in a particular estuary contained 70,000 times the average amount of insecticides found in the surrounding water.[3]

In its natural state, a coastal marsh yields almost ten tons of organic matter per acre each year. Compare this output to the most productive farmland in the world which yields only seven tons of wheat, for example, and requires continued fertilization and cultivation to do so. This organic matter provides nutrients for the production of aquatic plants, finfish and shellfish.

Biologists have estimated that the marshlands linking the Virginia Barrier Islands with the mainland are among the richest and most productive in the world. Because they trap nutrients from both land and sea, the productivity of the marshes dwarfs that of all but a few other exceptional ecosystems. They teem with life. It has been calculated that 90 percent of the commercial fish and shellfish caught in the area are dependent—during at least part of their lives—upon the islands' marsh systems.[4] Furthermore, 96 species of fish are known to use these marshes as nurseries for their young; 12 of the species are caught commercially. Among these are menhaden, flounder, scup, striped bass, herring, mullet, weakfish, shrimp, oysters, clams, and crabs.

Besides serving as breeding and nursery grounds for a wide variety of marine life, marshes provide pollution control by treating and assimilating nutrient wastes such as phosphorous. Marshes act as large "sponges," absorbing great amounts of water, and aiding in flood control. They serve as a buffer against storms, thereby protecting the mainlands; and they play a vital role in the cycling of nutrients such as nitrogen and sulfur.

In addition, the rich aquatic life of the marshes supports birds and mammals which come to the area to feed. The barrier islands themselves serve as breeding locations for colonial nesting birds and also support an abundance of migratory shorebirds and waterfowl. The tidal flats of all the islands attract thousands of shorebirds during their spring and fall flights, and the islands' numerous creeks and channels provide refuge for a wide variety of ducks and geese. Migrating birds find nourishment and rest in the same lush cordgrass

[3] Niering, "Dilemma of Coastal Wetlands," p. 147 & 148.

[4] Curtis Badger, "The Complex Web of Marsh Life," *The Eastern Shore News* (Accomac, Virginia, May 8, 1975).

which produces detritus. Detritus (bacterially decomposing grass) is the basis of the food chain that feeds oysters, clams, scallops, crab larvae, and newborn fish.

Although most of the barrier islands harbor the same migratory and resident bird species, Metomkin Island is especially significant for the amount and diversity of its avian inhabitants. The mixed heron colony at the northern end of Metomkin is composed of cattle egrets, snowy egrets, common egrets, Louisiana herons, black-crowned night herons, and glossy ibis. The middle section of the island would grab the heart of any colonial nesting bird enthusiast. In one mile-long section, an amazing spectacle of breeding activity takes place. Observers have spotted black skimmers, six species of terns, Wilson's plover, and oystercatchers. The latter are noted for their large numbers during all seasons.

Other unusual shorebirds sighted on the islands include three species of sandpipers, American avocet, whimbrel, and marbled godwit. Cormorant, loons, and grebes are seen in great variety. In addition, the marshes are Virginia's only breeding sites for the laughing gull, Forster's tern, and the willet.

The wooded and inland portions of several of the islands provide habitat for various song birds and other non-water fowl. Ten species of hawks find refuge on the barrier islands, including the rare and endangered peregrine falcon, the imperiled pigeon hawk or merlin, and the vanishing osprey. As a matter of fact, the uninhabited coastal areas of the east coast are considered as perhaps the major flyway in North America for these migrating falcons.

The islands are also home to white-tailed deer—which have been seen to swim from island to island—and many small mammals, such as river otter, mink, muskrat, raccoon, gray squirrel, red fox, short-tailed shrew, meadow vole, white-footed mouse, and cottontail rabbit. The cottontail on Smith Island is recognized as a distinct subspecies.

Because the Virginia Barrier Islands occupy a half-way position on the Atlantic Coastal Plain, the major plant populations found on the islands are representative of species living at the edge of their range. In other words, they may be surviving at the limit of their adaptability and are, for this reason, highly significant. For example, sea oats (*Uniola paniculata*) have been reported on Hog and Smith Islands, where they are at the northern limit of their range. Rogue and Myrtle Islands are noted for their patches of ground cherry (*Physalis viscosa* ssp. *maritima*) which occur in the foredune grasslands and are also probably the northern limit for this species.

Lush cordgrass of the marsh serves as nesting site for birds.

Parramore, often called "the jewel' in the chain of islands, is one of the most heavily vegetated and contains old stands of pine and cedar. The open dune system at the northern end of the island is unique because such unvegetated areas on the other islands are highly mobile. These dunes reach heights of 10 to 15 feet.

Altogether, the Virginia Coast Reserve presently consists of 33,371 acres of barrier islands and marshes, and includes Metomkin, Parramore, Cobb, Ship Shoal, Myrtle, Revel, Rogue, Sandy, Godwin, and Mink Islands, and portions of Cedar, Hog, and Smith. (Of the remaining five barrier islands not contained in the Reserve, three are federally protected, one is in state hands, and one is privately owned.) These miles of marshlands, sand dunes, grasslands, forests and thickets, and wide expansive beaches are a precious resource—a nursery for marine life, a protective boundary for the mainland, an invaluable rest stop for migrating birds, a vital and enormously productive ecosystem, a wildlife paradise, and a haven for world-weary man. The acquisition and protection of these Virginia Barrier Islands by The Nature Conservancy has resulted in perhaps the most significant single preservation effort of severely threatened estuarine and coastal resources ever undertaken by private conservation.

A LIGHT IN SOMEONE'S EYE

By Anne M. Byers

Oystercatchers

It all started about seven years ago when coastal land-use planning was only a light in someone's eye. A New York-based group of investors, called the Smith Island Development Corporation, announced their intention to turn three of the Virginia Barrier Islands into "King's Beach," a giant multi-million dollar project to create a luxurious retirement and recreation community on the Atlantic coast. King's Beach would have covered the three islands at the bottom of the 18-island chain: Ship Shoal, Myrtle and Smith. Plans for the 8,000-acre seashore wilderness included a causeway to the mainland, countless residential lots—each with its own little outlet to the ocean—yacht basins, hotels, private clubs, shopping malls, convention centers, business and professional buildings, even an airplane and seaplane facility. Actual physical development of the islands called for filling in the marshlands, dredging the bays, and carving miles of inland waterways into the land. The planners did not omit a thing—they even included a nine-acre "natural park" in the middle of Smith Island, adjacent to the convention center.

The Nature Conservancy learned of the plans for Ship Shoal, Smith, and Myrtle and quickly acquired Godwin Island—which lies northwest of Ship Shoal—so as to establish a foothold in the area. What followed were many months of intensive negotiations with the Smith Island Development Corporation. Then, with the money market in a slump, the possible lack of sufficient fresh water for future residents of the islands, and tremendous pressure from other environmental groups, including the Sierra Club, the corporation apparently decided that it could not promote its luxury resort. The Conservancy purchased the three islands for about $180 an acre with funds donated by the Mary Flagler Cary Charitable Trust, a New York philanthropy.

In acquiring its first four barrier islands, the Conservancy had also succeeded in establishing a relatively low market value for the islands. Thus, the organization started to seriously consider preserving the entire chain. An added incentive, too, was that trustees of the Cary Trust were interested in providing the Conservancy with further financial aid.

Many of the islands' owners, such as those of Rogue and Parramore, were anxious to sell to a conservation group. They wanted to see the land

Newborn egrets

they had enjoyed for years remain in its natural state. In other cases islands or pieces of them were purchased from owners who needed the cash or from land speculators who hoped to salvage what remained of their investments. Of course, in a few instances, the Conservancy had to resort to tough business bargaining and complex legal negotiating to outfox developers.

The owners of Metomkin Island, for example, were—according to all reports—determined to sell their 2,000-acre parcel of marshland to

developers. Despite the fact that the Conservancy had the funds to purchase the land, the sellers were unwilling to consider an offer. The last hope for saving the island was to employ the same tactics used by speculators and developers.

In June, 1970, Metomkin Island was purchased by a Virginia businessman. Although he had originally intended to retain ownership for personal investment purposes, he sold the property to Offshore Islands, Inc., which appeared to be just another land speculation company. It was, instead, owned and controlled by the Conservancy. In December, 1975, Offshore Islands, Inc., donated its only asset, Metomkin Island, to the Conservancy, bringing 13 of the Virginia Barrier Islands under the protection of what is now called the Virginia Coast Reserve.

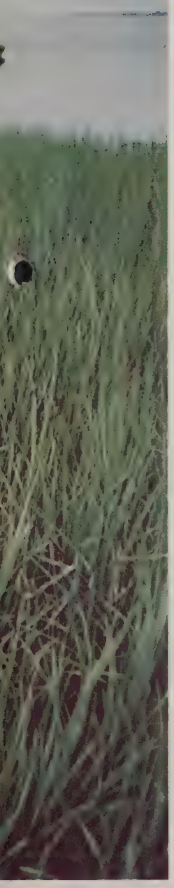
In years to come the Conservancy's barrier islands may serve as startling examples against which we will compare the long stretches of overcrowded, despoiled, and ravaged coastlines of our continent. By serving as models, perhaps the islands will bring closer the day when houses devastated by storms will not be rebuilt. Perhaps happier people will come to the sea to find only beauty and peace. And, hopefully, wiser people will retire to the mainland, leaving behind only footprints.

If developers had their way, the Virginia Barrier Islands might be jammed with hotels and condominiums, as is Ocean City, Maryland, a resort just 100 miles to the north.

The Virginia Coast Reserve

Clockwise from top left: Cedar Island sand dune; cordgrass marsh at Wachapreague Inlet, north of Parramore; skimmer; sunset over the mainland; snowy egret; snow geese on Parramore Island beach.

Photos by Susan Bournique



The Virginia Barrier Islands: A Brief History

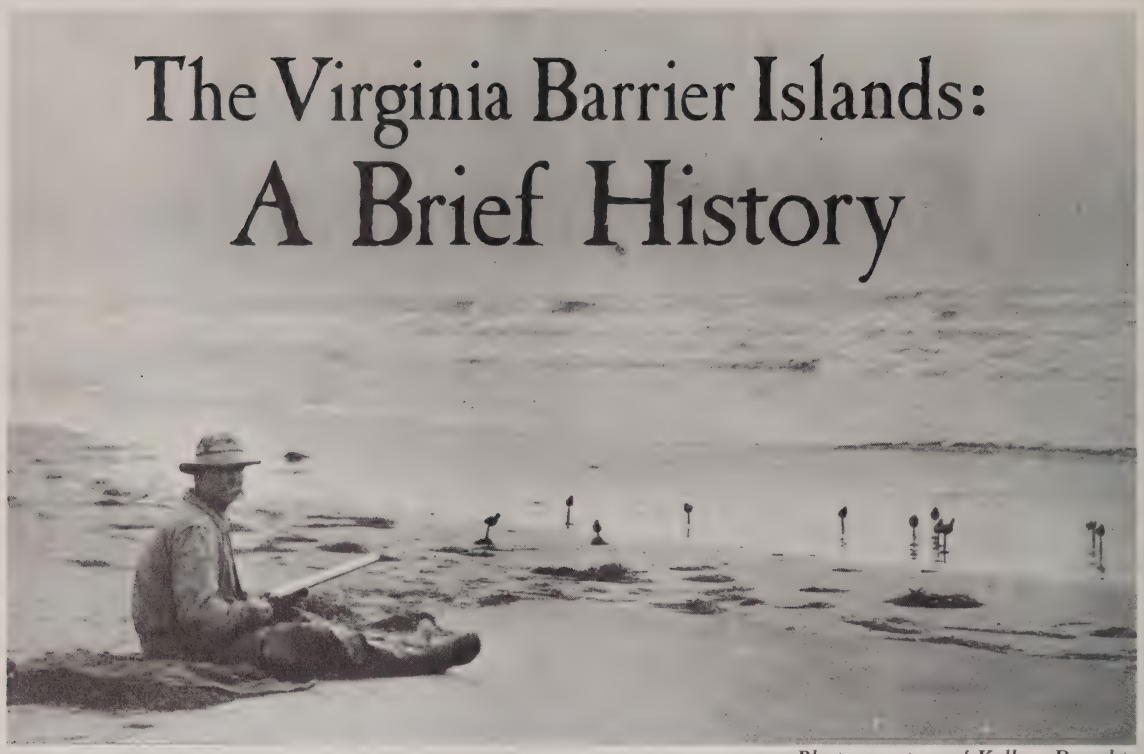


Photo courtesy of Kellam Doughty

By Maria Ann Graham

What is the mystery or magic that draws man inexorably toward the island? The mixed strength and vulnerability of this small parcel of land holding back a devouring sea is part of the allure. Tides, salt spray, and unpredictable ferocious storms combine to produce a unique physical and biological environment, appealing to the scientists among us. There is, however, something else. The island both challenges and offers a surcease. It is difficult to reach, but once ashore a man's world is bounded, more manageable and secure.

The Virginia Barrier Islands have always sung a siren song. Their beauty is their unique physical and biological character—a flora and fauna from which man has gained much benefit. There is a brutality here too, not only in a stormy sea and crashing waves, but in one of nature's more insidious means of getting even—chiggers, ticks, and mosquitoes.

When is man a legitimate factor in an ecosystem? Unquestionably the Virginia Barrier Islands have been strongly influenced by human activity. We tend to think that what man touches is somehow less natural—tainted, impure. Where then do we draw the line? We might say that man exploits nature. Does not nature exploit nature? Throughout history the men and women of the Eastern Shore have gained much from their association with the barrier islands, albeit not with ease. Nature has waged war in her usual frustratingly unpredictable and uncontrollable way.

The Indians of the Eastern Shore made frequent summer sojourns to the offshore islands. They undertook the long trip across Broadwater Bay to harvest clams and oysters. Some old-timers claim that there are still shellmounds on Hog Island today attesting to this enterprise. These aborigines were one of the small tribes inhabiting the peninsula. They were the Matchipungoes, and Hog Island was known as Matchipungo Island when the first English settled these shores. The word Matchipungo is said to mean "fine sand and flies." The island could not have been more appropriately named.

The southern tip of the Delmarva Peninsula was among the earliest explored and settled regions on the American continent. In 1608, one year after the settlement of Jamestown, Captain John Smith landed on the island which today bears his name. The island quickly became important to the first colonists. It was here that much-needed salt was produced through evaporation of sea water.

Throughout the 17th Century, the population of the Eastern Shore grew. The people were primarily farmers and livestock raisers. Tobacco

and cattle were important export commodities. Interestingly, the relative isolation of the peninsula into the 20th Century has limited immigration, and today many Eastern Shoremen carry the names of their colonial ancestors.

In the second half of the 17th Century, the cattle-raising colonists made an important discovery. Cattle could be released on the sea-fenced islands to forage and reproduce with little work required of their owners. Perhaps the only price to be paid was in the animal's quality, a result of the environmentally stressful conditions to which the animal was subjected.

The barrier islands were patented, one after the other, for this purpose. Livestock grazing thus became one of the most serious ecosystem disturbances inflicted by man on the islands. There were occasional temporary residents and occasional hunting parties, but the islands were primarily livestock pastures well into the 18th Century.

The turn of the century was a time when marauding pirates traveled the Atlantic Coast inspiring romantic tales—the legends which persist to tingle our spines today. The barrier islands and their winding waterways made attractive hiding and resting places. Doubtless, pirates did land on some of the islands of Virginia. On one recorded occasion they "victualled" their ships with a raid on Smith Island cattle. Edward Teach (alias Blackbeard), a notorious pirate of the period, is rumored to have buried a treasure along this coast. Some say that his home was in Accomack County. Unfortunately, history and myth have become hopelessly entwined. If nothing else, he probably came ashore for a drink of water!

Little mention is made of the barrier islands again until their names appear in the Revolutionary War records. The Eastern Shore was a bread basket for the Colonial Army. The British too were hungry and the cattle-pasture islands were inviting. Thus, in order to save them from the enemy, the cattle on Smith Island were removed. There is an intriguing connection here. Smith Island had been for many years in the ownership of the Custis family. Martha Dandridge married Daniel Parke Custis, and was widowed. She later married George Washington who became the stepfather to her children and guardian of their property, including Smith Island.

The more northern islands, Cedar and Parramore, are mentioned in this period as locations of small-scale defense establishments. The defense was mounted against British raiding barges entering the inlets.

It was shortly after the Revolutionary War that we find the first recorded mention of a settler on Hog Island. For the next 150 years the islands would be home to adventurous and hardy people.

Although Hog Island was inhabited, it was Cobb Island that reached its peak of activity in the 19th Century. In 1839, Nathan Cobb bought Great Sand Shoal Island for one hundred and fifty dollars. The Massachusetts shipbuilder moved his family to the island which would henceforth be known as Cobb's. The Cobbs salvaged ships ensnared by the shifting island shoals, and frequently saved lives prior to the establishment of Life Saving Stations. However, this was a time when pople were beginning to realize, and take advantage of, the seemingly limitless natural resources of the American continent.

The island people had always lived from the land and sea—egg-collecting in spring, fishing in summer, and hunting in fall and winter. In mid-century a new opportunity presented itself with the growing demand for wildfowl in city markets. Nathan Cobb and his sons killed ducks by the hundreds, packed them in barrels, and sent them north to be served in the finest hotels of New York and Philadelphia. Market hunting became an accepted business in the American free-enterprise system. The sons, especially Nathan Jr., are remembered today for their decoy-carving skill.

The reputation of Cobb Island spread. A few small hunting parties became a booming hotel business. The well-to-do came from all over the United States to hunt, fish, and swim. Jefferson Davis was among the guests. An August 26, 1896, Richmond newspaper had this to say about the Cobb Island Resort:

> There is a peculiar, indefinable charm about this spot which everyone who lingers here twenty-four hours is sure to experience. It is a charm which overcomes all the inconveniences and discomforts which abound, for while Nature has lavished her choicest gifts, man has done little or nothing.

Within a year it was gone. Severe storms had been pounding the coast for a decade and the destruction of the buildings came inevitably in the late 1890's.

Meanwhile, the other islands were experiencing an increase in man-related activity. The first lighthouse was built in 1828 on Smith Island, and Hog Island's first beacon was lit in 1852 or 1853. The Life Saving Service went into action with six stations betwen Metomkin and Smith Island. Other small hotels—Hog and Cedar Islands—appeared, and the first of the prestigious hunt clubs came into being.

The most disturbing event of the 19th Century, the Civil War, had relatively little effect on the Eastern Shore of Virginia. The peninsula was early occupied by Yankee Armies, who found only minor resistance. It is believed that the local people maintained a sympathy with the south, and thus

Cobb Island Hotel, circa 1890. Photo courtesy of Amine Kellam.

Cape Charles lighthouse, Smith Island, built in 1864. The site has since been washed away. Photo (1885) courtesy of the Mariners Museum.

U.S. Government property was a potential target. In August of 1863 the Smith Island Light was raided and put out of commission. The "guerillas" paid for their dinner with a $5 Confederate note before sailing off in a government boat. The islands are further mentioned in war literature in regard to blockade-running.

In the decade before the 19th became the 20th Century, the Eastern Shore was flourishing. The railroad had opened up the area and there were high hopes for prosperity on Virginia's peninsula. In spite of nature's warning on Cobb Island, the barrier islands were proving to be magnets for harried city-dwellers seeking vacations at the seashore.

Lavish and elite hunt clubs were established on the islands. The Broadwater Club of Hog Island frequently hosted Grover Cleveland. The Accomack Club, Revel's Island Club, Holly Island Club, and Bungalow Club were the enclaves of rich businessmen who wanted to get away from it all, to hunt and to fish.

The late 1800's and early 1900's saw the low ebb for many forms of American wildlife. Market hunting went unchecked, and the "sport" hunter was often less than that when it came to ducks, geese, and shorebirds. However, there was a growing awareness that a once seemingly limitless supply of game might be reaching an end. A new emphasis on sportsmanship, protective legislation, and wildlife management, partially nurtured by the hunter, began to stem the tide.

The island ecosystem was again altered. Although market hunting became illegal, duck trapping evolved as a profitable and exciting business

Elegant interior of the Accomack Club, one of the elite hunt clubs established around the turn of the century.

Main building of the Accomack Club. Photos courtesy of Capt. and Mrs. George Peppler.

for many natives who seem to still enjoy the intrigue of outwitting the game warden. Wildlife management consisted of stocking game (often exotic forms), habitat manipulation, and predator control. Good shooting was the aim, and consequently all of these methods were implemented by the hunt clubs of the Virginia Barrier Islands.

The haven offered by the sportsmen's clubs was shortlived. The storms took their toll again and the economic storm of the 1930's brought about the ultimate end. Today one finds it difficult to imagine that the islands were the scene of such a distinguished social gathering.

The most dramatized period in barrier island history concerns the little village of Broadwater on Hog Island's southern end. Life there is depicted as having been idyllic before the storms and sea began another reconstruction of the island chain.

> Hog Island, bathed in the mellow light of the moon, is indeed a paradise (when the mosquitoes don't bite) nestling in the bosom of old ocean like a gem, from the Life Saving Station on the sands with its band of stalwart seamen, to the top of the tall light tower, which sends its comforting gleams to the distressed mariner, is full to overflowing with a

Methodist Church of Broadwater, Hog Island. Built in 1880 and moved from the island in the 1930's, the church is now attached to the chapel at Oyster, Virginia. The cemetery was inundated by the sea in the late 1940's or early 1950's. Photo courtesy of Ted Ward.

> mysterious interest, which gives the impression of prodigious strength, with calm peaceful security . . . (*Accomack News,* September 19, 1903).

By 1930, forty or fifty homes, a school, and church formed the nucleus of the town, located in the midst of a pine forest. The population of Broadwater had reached two hundred and fifty. They were watermen who harvested the sea, grew gardens, raised livestock, gathered bird eggs, and hunted. Their livelihood depended on their knowledge of the sea and of the animals which they shot and trapped. They were observant naturalists, but no one seemed to notice that the ocean was inching closer. Perhaps they did not want to see.

During the 1920's the abandoned 1852 lighthouse gave itself up to the waves. Nevertheless, it was not until 1933 that the Hog Islanders accepted the message. In August of that year the worst storm in living memory submerged the island and precipitated the exodus. Although neighbors floated their homes on barges to the mainland, many were reluctant to give up their island life. The last mail delivery was made eight years later on February 15, 1941. Today, not a trace of town or forest remains.

Hog Island was the focal point of activity in the 20th Century. The other islands, however, were not left untouched. Private ownership and small clubs continued the hunting and fishing tradition of their famous predecessors. Livestock was grazed as it was three centuries before. It was only in 1950 that hundreds of goats were rounded up on Parramore Island by Texas cowboys. Until recent times, cattle, sheep, horses, and goats have been released and occasionally abandoned.

The islands served as defensive barriers during World War II. Daily patrols searched for saboteurs who might attempt to sneak ashore. A few of the islands became targets for bombing practice, much to the chagrin of local watermen.

Innumerable development plans have been proposed. However, The Nature Conservancy's purchase of a large portion of the barrier chain has thwarted those who have long schemed to give the Atlantic Coast another Ocean City. Visions of hotels, summer homes, and shopping centers have been reluctantly forsaken.

The islands are quieter now then they have been in a century. Very few structures remain to remind us of a livelier day, but the "old-heads" remember. Some were born, made a living, married, bore children, and buried their parents on these sandy stepping-stones to the sea. The aura of island life, dependent on nature, is instilled in the new generation. The people of the Eastern Shore live close to their history—traditions continue undiluted.

The Virginia Coast Reserve Study

By Rod Hennessey

The Conservancy's timely purchase of the Virginia Barrier Islands was crucial in insuring that this coastal ecosystem continue to function in its natural state. However, as has been so often demonstrated in the past, acquisition alone does not protect a natural area. Even islands are not immune to all the external influences of our man-dominated environment. How can the Virginia Coast Reserve, encompassing some 33,000 acres, be best protected from such influences?

In 1974 the Conservancy initiated an ecosystem and resource management study, funded by the Mary Flagler Cary Charitable Trust, to determine the most responsible way to carry out its stewardship commitment for the islands. The two-year study, recently completed, was structured as the planning phase for a continued management program which will have as its primary goal the protection of the natural system. Carried out with the assistance of scientists, economists, sociologists, attorneys, and historians, the four-part study included research on the islands' legislation and ownership patterns; a survey of the natural features of the islands; a social and economic analysis; and a study of potential management strategies.

First, a complete title search was conducted to provide a clear image of the Conservancy's ownership and of inholdings within the reserve system. The ownership information gave the Conservancy a basis from which to assess the security of its present position as the controlling landowner within the island system. A review of the situation fostered the preparation of a strategy for further acquisition of key lands that are worthy of preservation from an ecological and/or strategical perspective. At the same time, the complex environmental legislation pertaining to islands and wetlands at the federal, state, and local levels was compiled and abstracted for use in the administration of the reserve.

The supply of existing ecological data about the barrier islands was scarce. Some information was available in the fields of geology, ornithology, and rudimentary plant community associations. A substantial body of material existed regarding the fisheries resources of the waters surrounding the island chain. All the available information, including publications, maps, aerial photographs, and other supportive material, was collected, while additional basic field work was undertaken to complement the existing data. Research included an analysis of the history of human impact on the island ecosystem, and extensive surveys and mapping of ecological resources such as climate, soils, geology, flora and fauna. The research provided the framework for the proper allocation of the Conservancy's protection efforts as well as an important baseline both for future monitoring and for comparison to other barrier island systems.

Through its acquisition of the Virginia Barrier Islands, the Conservancy has become the largest property owner in the Eastern Shore counties of Accomack and Northampton. To determine the impact of the islands' preservation on these local communities, a social and economic analysis was conducted. Baseline information on the local economy was collected, and the benefits and costs of preservation to the local community and the region were assessed. In addition, the region's potential growth, land use, and recreational needs were studied to determine their possible impact on the Virginia Coast Reserve.

An opinion poll of a representative sample of Eastern Shore residents was conducted to determine whether the Conservancy's preservation activ-

Rod Hennessey (left), director of the study, and Jim MacFarland, economist, conduct field work for the project.

ities were in accordance with or in opposition to the sentiment of the local citizenry. The survey showed that, despite the possibility of increased job opportunities and other economic benefits associated with development of the area, the overwhelming majority of local residents is strongly in favor of protecting and maintaining the islands in their natural condition. The study showed that the barrier islands, in their natural state, represent a valuable resource to the Eastern Shore of Virginia. They offer a livelihood to some by protecting marshland which serves as a breeding ground for marketable fish and shellfish. They benefit the residents of the peninsula's "seaside" by buffering the shoreline from storm surges and winds. A less tangible asset is realized by a wider spectrum of the population: the islands are an integral part of the rural lifestyle—the preferred quality of life—of the local residents.

The fourth part of the study dealt with stewardship of the Virginia Coast Reserve. A list was developed of stewardship needs and the procedures which would offer maximum protection of the ecosystem. One of the greatest unknowns in the preservation strategy was the ultimate managing agency for the island chain. After examining in detail the stewardship capabilities and policies of a number of selected federal, state, and county agencies, it was decided that the Conservancy itself was best suited to manage the reserve. A preliminary stewardship scheme, accommodating preservation, research, and educational uses, was then established. (See Ecology Forum, page 25, for a more detailed look at the Conservancy's plans for the Reserve.)

To implement the proposed stewardship plan, funds will be needed for personnel, equipment, office space, and housing, as well as for further land acquisition and research. Approximately $48,000 is needed for the first year, and the support of Conservancy members and friends is urgently needed. Contributions may be sent to the Virginia Coast Reserve, c/o the National Office.

ISLANDS DEFENDED

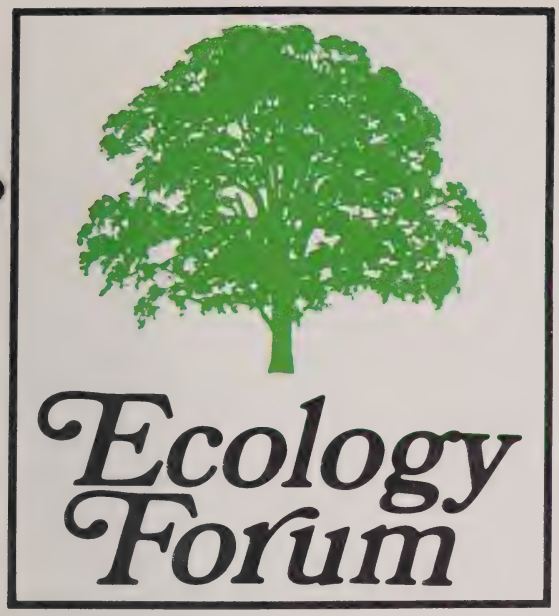
The *Washington Post* for Christmas Day, 1975, carried a front-page headline: "Va. Barrier Isles Saved." The story which followed was a tribute to the Conservancy's skill in acquiring 13 islands which give it "almost uninterrupted control of 60 miles of Virginia coastline, creating one of the nation's best preserves of primitive marsh and dune island."

About one month after the *Post* heralded the islands' preservation, the Conservancy received a draft environmental impact statement concerning construction by the Army Corps of Engineers of a six-foot deep waterway, varying in width from 60 feet to 100 feet, between the Virginia Barrier Islands and the shore. The waterway would continue northward through Chincoteague Bay in Maryland and through interior waters and canals in Delaware. Construction would cost $21 million. The waterway would divert intracoastal boat traffic from the Chesapeake Bay, would generate increased use (commercial and recreational) by residents and visitors, and stimulate development, increase water pollution, destroy marsh, and adversely affect a relatively pristine environment. The islands were in jeopardy, and the Conservancy was reminded that it is one thing to acquire an ecologically important area and another to protect it.

Since the total project was to be almost 150 miles long and affected Maryland and Delaware as well as Virginia, a number of local and national environmental groups joined together to fight the project. Rather than submerge its identity in this coalition and because the project affected the Conservancy directly, as landowners, and to a far greater degree than any other group, the Conservancy chose to proceed independently.

The fact that the project was so expensive and its benefits so nebulous, combined with the present tight finances of the states involved and the promise of an environmental controversy, led Delaware and Maryland to make prompt decisions to withdraw. Virginia, however, lingered, seeking input from various interests including the Conservancy. The Conservancy responded by preparing a 30-page analysis which concluded that the waterway was environmentally and economically unjustifiable. A meeting between the Corps, the Conservancy, several others groups, and the state's Secretary of Commerce and Resources was held in Richmond. Although the meeting was intended simply as an information exchange, it in fact led the Secretary shortly thereafter to withdraw Virginia's support from the project.

If normal procedures are followed, it will take the Corps eight years before it can de-authorize the project officially; but the islands do now seem a bit more secure.



No. 20
by Ray M. Culter and
Robert E. Jenkins

THE FUTURE OF THE VIRGINIA COAST RESERVE

Among the nearly 660 preserves owned and managed by The Nature Conservancy, the Virginia Coast Reserve is in many ways the best. To our knowledge, it is the largest privately managed preserve in the Atlantic coastal zone where the pressures of development and rising land prices have made the establishment of such preserves increasingly difficult. Even in the public sector, there are very few coastal sanctuaries that rival this 33,000-acre natural area. The combination of ownership by a private organization, the large size and significance, and the fact that it is comprised of undeveloped barrier islands which are increasingly rare and threatened resources, makes the Virginia Coast Reserve potentially the most important private preserve for research, education, and development of stewardship tools in the nation today.

As part of the recently completed Virginia Coast Reserve Study (described elsewhere in this issue), the Conservancy investigated the possibility of transferring or leasing the islands to another agency for management purposes. The stewardship capabilities and policies of selected federal, state, and county agencies were analyzed, and each agency's program was examined to see whether it fit into the Conservancy's plan for preservation of the reserve. These studies have already helped the Conservancy make one major decision: to retain responsibility for the islands' stewardship. With the possible exception of the U.S. Fish & Wildlife Service, no one else is available, at this time, with the resources, experience, and intent to protect the natural attributes of the islands.

The Conservancy is currently engaged in a program to establish a limited number of "model preserves"—areas of national ecological significance which simultaneously exhibit the best of the Conservancy's identification, acquisition, and management techniques. The Virginia Coast Reserve—along with such outstanding areas as Devil's Den, Connecticut; McCloud River, California; and Samuel Ordway Prairie, South Dakota—has been designated as a model preserve. As such, the islands will serve as an outdoor laboratory for research, as a facility for non-consumptive educational programs, and as a center for various forms of compatible public use. They will also be provided the best possible care and protection.

The potential for research on the Virginia Coast Reserve is enormous. Building upon the perspectives engendered by the Study, the Conservancy now has the opportunity to move into a strong program for the perpetual stewardship and use of the islands. The first task, of course, is to provide for fundamental surveillance and protection of the fragile elements identified in the studies. For example, some of the most important heronries to be found in the entire region are located in isolated spots on the islands, and these need to be protected from malicious or careless intrusions during the several months of the year when there are active nests. In the process of providing this protection, a variety of interesting basic and applied research opportunities arise. Information on the nesting success and population trends of the herons may be quite significant, as a number of the species have declined in the recent past. In addition, when fully documented, the experience gained in effectively providing the required protection can be generalized and transferred, as applicable, to other Conservancy preserves. The fact that we can use this model preserve for well-organized stewardship research which can be applied to the management of other preserves is one of the main benefits of our continued ownership of the islands. Also, we hope that we may productively interact and exchange information with other public and private preserve stewards throughout the country so as to accelerate the development of the art of preserve stewardship to meet the burgeoning future needs associated with private land ownership.

One proposal which has stimulated interest within the scientific community is the possibility of establishing a barrier island research consortium within the Virginia Coast Reserve. This facility would be located on the mainland adjacent to the

Reserve and utilize the islands as a natural laboratory. The benefits of such a facility would be many. The islands would derive immediate protection from the increased surveillance provided by the scientific observers, and the additional scientific documentation would assist in day-to-day management decisions. Also, as the islands became more important as a research and educational resource, damages from other avoidable threats such as channelization and off-shore gas and oil development would be less likely. The field station could be structured to provide operating income to the preserve through an overhead fee.

As another step in the extension of model preserve stewardship, we would hope to organize an increasingly active role for volunteers from the local communities and from other conservation organizations and agencies. There are a number of federal and state agencies managing preserves in and adjacent to the Conservancy barrier islands, and there should be many economies and improvements to be realized by a closer coordination of these efforts. In the community, there is a large number of people with a deep appreciation for the islands, many of whom have exercised traditional non-destructive uses on them for years or generations. We have discovered a tremendous empathy among these people and a desire for direct involvement in the operation and protection of the islands. We would hope to make this possible through a close interaction with the community.

There is also great potential in extending the stewardship experience in another direction; that is, north and south through the rest of the coastal zone. Probably no other private agency has been, and is, as involved as the Conservancy in protecting the still natural fragments of our coasts, including not only barrier islands, but beaches, estuaries, salt marshes, rocky islands, and keys. At the same time, the preservation of the barrier islands goes on. There will continue to be threats to its ecological integrity, ranging from problems of inholdings and over-use to destructive public works projects. In meeting and overcoming these threats in the barrier islands, both alone and in cooperation with other conservation forces, we are developing a continuous case history with great potential import for conservation elsewhere in the coastal zone.

Overall, there is simply no other preserve in the Conservancy's inventory which offers such great challenges and opportunities for dynamic future management and use. There is no doubt that the Virginia Coast Reserve will become one of the primary management resources within the Conservancy and a major example to all private conservation groups in the nation.

1976 ANNUAL MEETING HELD IN PORTLAND

With Board Chairman William Blair presiding, members at this year's Annual Meeting in Portland affirmed bylaw amendments and, in a special resolution, praised Conservancy pioneers George and Barbara Fell.

The Oregon conference which began on Thursday, May 20th, with a pair of separate field trips—one to the coast and one to the interior—featured a well-attended Annual Dinner, and workshop sessions on Saturday. Saturday evening, staff, guests, members and board gathered in Portland's Rose Gardens high above the city to enjoy a fine buffet picnic. Sunday saw members in three groups—walkers, hikers, and rafters—explore the wilderness along Sandy River Gorge, just minutes from Portland. For most members the four-day meeting and conference ended with the return of the Sandy River travelers to the Benson Hotel Sunday afternoon. For a few members, however, the northwest adventure continued with a special trip to the San Juan Islands of Puget Sound.

All had high praise for the hospitality of the Benson and for the efforts of Conservancy volunteers and staff in the northwest for making the meeting and conference so enjoyable and instructive.

OVER ONE MILLION ACRES SAVED!

Just before this issue of *The Nature Conservancy News* went to press, it was learned that the Conservancy had acquired Mt. Haggin Ranch in the Rocky Mountains, near Anaconda, Montana. The 76,000-acre property brought the Conservancy's total amount of lands preserved to 1,028,398 acres—over one million acres! Mt. Haggin was the 1,652nd project the Conservancy has undertaken since it completed its first project, the Mianus River Gorge Preserve in New York, in 1954.

The Conservancy wishes to express its deep appreciation to its members, volunteers, and staff. Without the assistance and support of all of you, the acquisition of Mt. Haggin Ranch and the preservation of over one million acres of natural land would not have been possible.

The American Land Trust

SAVING THE BEST FOR A PROMISE

By Lynn Mohn

"An appropriate, imaginative, and highly rewarding way to celebrate this country's two-hundredth birthday is now available to Americans . . ." said a *New York Times* editorial at the inception of the American Land Trust a few short months ago.

Since then, the new American Land Trust has drawn growing ovations and support in its unique campaign to save the treasures of this nation's rich natural heritage *now*, during the Bicentennial era, as a lasting gift to all Americans, their children, and their children's children.

Under the administration of The Nature Conservancy, the Trust is seeking to identify and preserve at least one prime natural area of nationwide ecological importance in each of the 50 states. The goal is $200 million in donations of land or funds to acquire land.

As reported in the Spring *News*, the first gifts to ALT came from three corporations—11,000 acres in the Great Dismal Swamp, North Carolina, from the Weyerhaeuser Company; 3,800 acres of North Carolina's Chowan Swamp from Union Camp Corporation; and the 3,793-acre Crystal Bog and a 714-acre stretch of the Seboeis River, both in Maine, both from the J. M. Huber Corporation.

The Trust is now assisting in the completion of the following projects:

- **Roan Mountain,** Tennessee/North Carolina (2,361 acres)—On the Highlands of the Roan where the Appalachian Trail crosses are bald summits and wild, lush expanses of rhododendrons. Fund-raising goal: $500,000.
- **Tiger Creek,** Florida (1,720 acres)—As primitive and pristine as when the Seminole Indians traversed it, the creek courses between sandhills and swamps. Fund-raising goal: $500,000.
- **Silver Creek,** Idaho (479 acres)—This cold, sparkling trout stream is perhaps the finest in North America; the area supports a great blue heron rookery and hosts migratory waterfowl. Fund-raising goal: $600,000.
- **Little Black Slough,** Illinois (2,506 acres)—Tall tupelos and 300-year-old cypress grow in this remnant of the once numerous river swamps. Fund-raising goal: $400,000.
- **Skagit River,** Washington (Eventually 903 acres)—The largest known concentration of northern bald eagles in the west winter here. Fund-raising goal: $160,000.
- **Hall's Knoll,** Georgia (88 acres)—With its loblolly pine and numerous large live oaks, the plantation homesite of Dr. Lyman Hall, a signer of the Declaration of Independence, was donated by Union Camp Corporation.
- **Cedar Glen Eagle Roost,** Illinois (68 acres)—This is an addition to a major winter roost for bald eagles on the Mississippi River in Illinois. Fund-raising goal: $17,000.
- **Mt. Haggin,** Montana (76,000 acres)—Snow-capped mountains, alpine meadows, thick pine forest, and lush river valleys lie along the Continental Divide.

Further good news is that the National Council of State Garden Clubs, the largest gardening organization in the world with nearly half a million members, has generously volunteered to be a "partner in land conservation" with the American Land Trust. Now, 51 state federations and 13,185 local garden clubs across the nation are actively assisting in seeking support and funds for the Trust.

In addition, The Equitable Life Assurance Society of the United States has joined the campaign. It has notified ALT that contributions by its agents and employees to the Trust qualify for matching gifts by the company.

The timely challenge of the American Land Trust is quickly inspiring many people. To date, more than 2,000 individuals have mailed contributions, and substantial donations have come from several noted philanthropists. Also, the Aetna Life and Casualty Company, Union Carbide Corporation, Exxon U.S.A. and Equitable Life Assurance Society have made gifts toward Trust operations.

With the continued help of citizens, industry, civic groups, and foundations in the Trust's effort, our diverse natural world and the life it supports can be saved *today*—for the promise it holds for tomorrow.

Contributions and inquiries to the American Land Trust can be mailed to P. O. Box 2076, Arlington, Virginia 22202. All donations are tax-deductible. Please make checks payable to The Nature Conservancy. Executive Director for the Trust is George S. Wills.

VOLUNTEER NOTES

NEW CHAPTER FORMED IN NEW YORK

On July 1, an interim chapter charter was granted to Conservancy members in the Lower Hudson region of New York. Encompassing the counties of Westchester, Dutchess, Putnam, Orange, and Rockland, the new chapter will have responsibility for carrying out Conservancy programs in the region, including the identification and acquisition of natural areas, and the stewardship of more than 3,000 acres already in Conservancy ownership. The Lower Hudson Chapter brings to six the number of chapters in New York State.

There are currently 28 preserves in the five-county area, including two National Natural Landmarks: the 352-acre Mianus River Gorge, the Conservancy's first project, and Thompson Pond, an 80-acre marshy glacial lake.

John R. Robinson, an attorney and a founder of the Natural Resources Defense Council, has been employed to assist in the establishment of the Chapter. Through John's efforts and the hard work of key Conservancy volunteers, the 600 members residing in the five-county area have become part of a new and promising Conservancy chapter.

INDIANA PROJECT COMMITTEE ESTABLISHED

Citizens in Indiana's three Lake Michigan counties, concerned about the continuing destruction of the remaining natural areas in that region, joined together with the Conservancy's Indiana Chapter to form the Northwest Indiana Conservancy. Functioning as an ongoing project committe of The Nature Conservancy, the new group will work to identify, acquire, and preserve unique natural areas in Lake, Porter, and LaPorte Counties.

Three Conservancy projects in the area are Kankakee Swamp in Lake County, Moraine Nature Preserve in Porter County, and Barker Woods in LaPorte County. A fundraising drive for a new project, the Little Calumet-Langaluttig Marsh near Chesterton, was recently begun.

NORTHEAST PENNSYLVANIA CHAPTER RECEIVES FULL CHARTER

The Board of Governors has approved a full charter for the Northeastern Pennsylvania Chapter, bringing the total number of Conservancy chapters to 31, plus 4 interim chapters. Approval was based on the Chapter's impressive performance during the year of operation under an interim charter.

The Chapter's accomplishments during the year incuded organizing county committees with representation on the chapter board of trustees, systematically creating a list of priority projects based on inventories, and printing an attractive, informative brochure and newsletter. The Chapter was also successful in tripling its membership during the one-year period.

EASTERN NEW YORK CHAPTER OFFERS COURSE FOR STEWARDSHIP VOLUNTEERS

A field course covering practical mapping and research techniques for natural area preserves has been designed by the Conservancy's Eastern New York Chapter. The one and one-half day program was offered June 12 and 13 at the Chapter's 300-acre Kenrose Preserve, for volunteers in preserve stewardship.

Participants learned basic techniques for identifying and mapping property boundaries, for mapping general outlines of distinct habitats and communities within preserve boundaries, and for sampling trees in measured, permanently marked research quadrants. The course leaders were James West, Senior Land Surveyor for the Department of Environmental Conservation; Frank Leavitt, District Conservationist for the Soil Conservation Service, Albany County; and Alvin Breisch, plant ecologist.

The workshop content will be described in detail in printed proceedings of the three sessions, to be published in late September for Conservancy chapters and other educational and scientific organizations to use in training volunteers. Participants in the pilot session included Nature Conservancy staff, Chapter preserve committee members, high school teachers, and environmental management council staff.

MAINE CHAPTER LAUNCHES MEMBERSHIP DRIVE

This past spring, the Conservancy's Maine Chapter embarked on a project to obtain both individual and corporate memberships. The latter is a new effort for the Chapter and one which has already brought significant results. Three new corporate members have been enlisted: International Paper Company, St. Regis Paper Company, and J. M. Huber Corporation, the last of which also donated Crystal Bog and the Seboeis River tract—two wildernesses in Maine—to The American Land Trust.

The state of Maine is particularly well-suited to enlisting corporate members, since 90 percent of Maine's natural lands (i.e., one-half of the state or 10 million acres) is owned by 16 corporations and large land-holding families. In addition, many of these corporations' work relates to the use of land and water resources, or to outdoor activities. Many companies have located in Maine because of the state's natural resources or because of the extra benefits derived from open spaces.

The Chapter's approach to corporate members stresses the Conservancy's goals and programs at the national and state levels, particularly programs directed by business, professional and lay people. The Chapter cites its interest in working *with* corporations to preserve natural areas, as well as in helping communities acquire open space.

The Maine Chapter has made other encouraging contacts and is optimistic that additional memberships will be forthcoming. Half of a corporate membership's dues ($1,000 or more) goes to the chapter which initiates the contact. It is, however, not only the membership support that is important, but also the interest shown towards the protection of natural areas within the state. In addition, corporate memberships offer a basis for exploring contributions by associated foundations or groups of similar-minded firms. Through its corporate memberships, the Maine Chapter and the Conservancy hope to strike a balance between development and preservation in such a way that it best serves the public trust.

MISSOURI CONSERVATION DEPARTMENT RECEIVES AWARD

At its 1976 Annual Meeting and Conference in Portland, Oregon, the Conservancy presented the Missouri Department of Conservation with a President's Stewardship Award in recognition of the Department's outstanding management of 14 of the Conservancy's natural areas in Missouri. The special award reflects the Department's expertise and invaluable assistance in ensuring the protection of 11 prairies, a lichen glade, a woodland, and a lily pond.

As reported in the Spring *News,* Stewardship Awards were also presented to Barbara K. Hopper, the Connecticut Chapter, and the Thompson Pond Committee.

AUDUBON AIDS MILE HI FUNDRAISING EFFORT

The Conservancy's fundraising effort for the Mile Hi Ranch, 20 acres of land adjoining the Ramsey Canyon Preserve in southern Arizona, has received support from hundreds of friends throughout the country. To date the Conservancy has raised around $136,000, or about 70% of our total goal of $180,000.

We are grateful to the National Audubon Society, the Arizona Audubon Council, and local Audubon chapters in both Arizona and California for their assistance. The Audubon Society launched a special Arizona appeal, and contributions were received from many local chapters and individual Audubon members. The aid of like-minded groups has been tremendously important to the Conservancy's successful record, and the Audubon Society has been a strong and generous friend.

PHOTOGRAPHS: Curtis Badger, p. 23; Susan Bournique, pp. 5, 7, 9, 12 (bottom), 13, 14; Thomas Burke, p. 4; Laura de Frise, pp. 8, 11, 15 (top); Harold Flecknoe, p. 15 (bottom); Tim Loomis, p. 12 (top), inside back cover; Tom Sennett, p. 10.

This Christmas the Conservancy will offer a special Membership Gift Plan featuring wildlife prints by well-known artists. Watch for details in the Fall *News.*

1975 ANNUAL REPORT

The Conservancy's 1975 Annual Report is now available on request. Write to Ms. Sue Dodge, Director of Publications, at the National Office.

Ways of Giving

BEQUESTS

Third in a four-part series

by L. Gregory Low

A vital element of anyone's estate plan is a carefully drafted will. If properly written and executed, a will can provide several important benefits:

(1) You can determine—rather than leave up to your state's laws—how your property will be disposed and distributed.

(2) You can name the individual or trust department which will act as your executor to manage and settle your estate.

(3) You can often reduce estate tax and probate costs with good legal counsel in preparing your will.

(4) You can provide for charitable gifts and receive further estate tax savings.

A thoughtfully planned will can insure that as much of your assets as possible will go to the people and causes you select, rather than into the coffers of government. This may be particularly important to you if you feel that the government is not providing sufficient resources to meet the needs of natural area preservation.

The federal government does in fact "reward" thoughtful donors who decide to make contributions to The Nature Conservancy in their wills. Just as a donation made *during* one's lifetime entitles a donor to a charitable income tax deduction, a similar type of deduction exists under the estate tax laws. Indeed, the deduction under estate tax laws may even be more favorable, since there is no percentage limitation on the amount which can be deducted as a gift from an estate. Thus, a gift by will may prove to be a very favorable way of assisting the Conservancy and providing lasting memorial benefits.

For example, Mr. Doe, a widower, has an estate valued at $200,000. Without any charitable bequest, the federal tax on his estate would be $32,700. However, should he decide to make a $50,000 bequest to the Conservancy, the tax on his estate would be reduced to $17,900. This represents an estate tax savings of $14,800 which, in turn, lowers the "out-of-pocket cost" of the gift to $35,200. Moreover, Mr. Doe knows that his gift will further the cause of land conservation, rather than simply generate additional federal tax revenues that are used for purposes over which he has no control.

All too often otherwise prudent people never execute a will. The results are usually undesirable. Property is distributed to beneficiaries who were not named by the testator; funds are passed to young children or others not experienced in money management; other assets are needlessly lost. And thousands of dollars are expended to pay unnecessary taxes and legal fees. Executing a will insures that the value of your estate will be maximized for those people and causes you care about. This applies not only to wealthy individuals but to those with more modest assets as well.

In reviewing your plans for yourself and your family, the Conservancy hopes that you will remember us—and our important goal of saving America's natural heritage. If you would like further information on the subject of wills, we will be happy to furnish more material or to discuss these matters with you on a totally confidential basis. We can also tell you about a variety of memorial opportunities that are available throughout the nation in connection with our land conservation program. Any bequest may be restricted and applied according to your specific wishes and instructions. We do request that you furnish us with a copy of that portion of your will which relates to the Conservancy, so we may be certain that your wishes are followed and your tax status protected.

The following clause can be incorporated into your will to insure a gift to the Conservancy:

I hereby give, devise, and bequeath to THE NATURE CONSERVANCY, a non-profit educational, scientific, and charitable institution incorporated in the District of Columbia, and now of 1800 North Kent Street, Arlington, Virginia, the sum of _____ Dollars, which shall be used in such a manner as THE BOARD OF GOVERNORS OF THE NATURE CONSERVANCY in its discretion believes to be appropriate to effect the purposes and goals of THE NATURE CONSERVANCY.

WHAT A BEQUEST CAN DO

Ramsey Canyon, a deep, winding gorge in the Huachuca Mountain range of Arizona, was a bequest of the late Dr. N.C. Bledsoe. A National Natural Landmark, the 280-acre area is well known among bird-watchers for its many rare birds and its 15 species of hummingbirds. Under Conservancy management, the Canyon will forever be set aside for scientific use and research, as well as for the enjoyment of future generations.

If you wish to make a bequest, the Conservancy will be glad to provide further information and to consult with you on a confidential basis.

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